

## Progress with the Visible Nulling Coronagraph

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The Visible Nulling Coronagraph is an instrument for high resolution imaging and spectroscopy of extra-solar planets. We describe a space mission for visible direct detection and spectroscopy of Earth-like extrasolar planets using this instrument behind a moderately sized ( $\sim 4$ -m) telescope. A 4-beam nulling interferometer is synthesized from the telescope pupil, producing a deep null proportional to  $\theta^4$ , which is then filtered by a coherent array of single mode fibers to suppress the residual scattered light. With diffraction limited telescope optics and similar quality components in the optical train ( $\lambda/20$ ), suppression of the starlight to  $10^{-10}$  is achievable. We describe key features of this in a space mission, present latest results of laboratory measurements demonstrating achievable null depth and component development, and discuss future key technical milestones.

